

ABSTRACT

Phosphorylated Apoptin is described. Apoptin is tumor-specifically phosphorylated and part of the Apoptin apoptotic pathway in tumor cells is elucidated. New therapeutic possibilities, for example, novel therapeutic compounds that can work alone or, sequentially to, or jointly with other known compounds. Also, the use of tumor-specifically phosphorylation of Apoptin for diagnostic purposes is described. Such a diagnostic purpose can, for example, be a method for detecting the presence of cancer cells or cells that are cancer prone or a method to identify a putative cancer inducing agent or a method for the *in vitro* treatment effect of Apoptin on tumor cells by testing the phosphorylation state of Apoptin. Even more, the invention provides possibilities to further elucidate the apoptotic pathway and to identify for example crucial mediators of phosphorylation in human tumor cells. Interfering with such a mediator could provide new anti-cancer therapies.